UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS .
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,447	11/29/2004	Raanan Ben-Horin	7031P007	2936

8791 7590 10/18/2007

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER	
RIPLEY, JAY R	

ART UNIT	PAPER NUMBER
3679	

MAIL DATE	DELIVERY MODE
10/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,447	BEN-HORIN, RAANAN	
	Examiner	Art Unit	
	Jay R. Ripley	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08/02/2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 21-40 are pending. Claims 1-20 have been cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 21-23, 26, 31, 32, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. 6,394,507).

4. In regard to claim 21, Baker discloses in Figure 2, below, a pipe coupling for connecting a pipe (16) to a counter-flange associated with another pipe (16a) in a sealed manner, wherein the pipe is formed with a circumferential groove, the coupling comprising a single gasket, a mounting ring, and a mounting flange having a coned shaped inner surface, wherein the mounting ring is elastically expandable (a material suitable for the mounting ring will have elastic properties) and is integrally formed with an outer cone-shaped surface (as observed in marked Figure 2 below and column 9, lines 29-31 and lines 39-43) and with an inner rib (shaded area as observed in marked Figure 2 below), the rib being adapted to fit into the groove upon elastically expanding the ring over the pipe (column 9, lines 30-38) to hold the ring affixed to the pipe when being tightened towards the counter-flange.

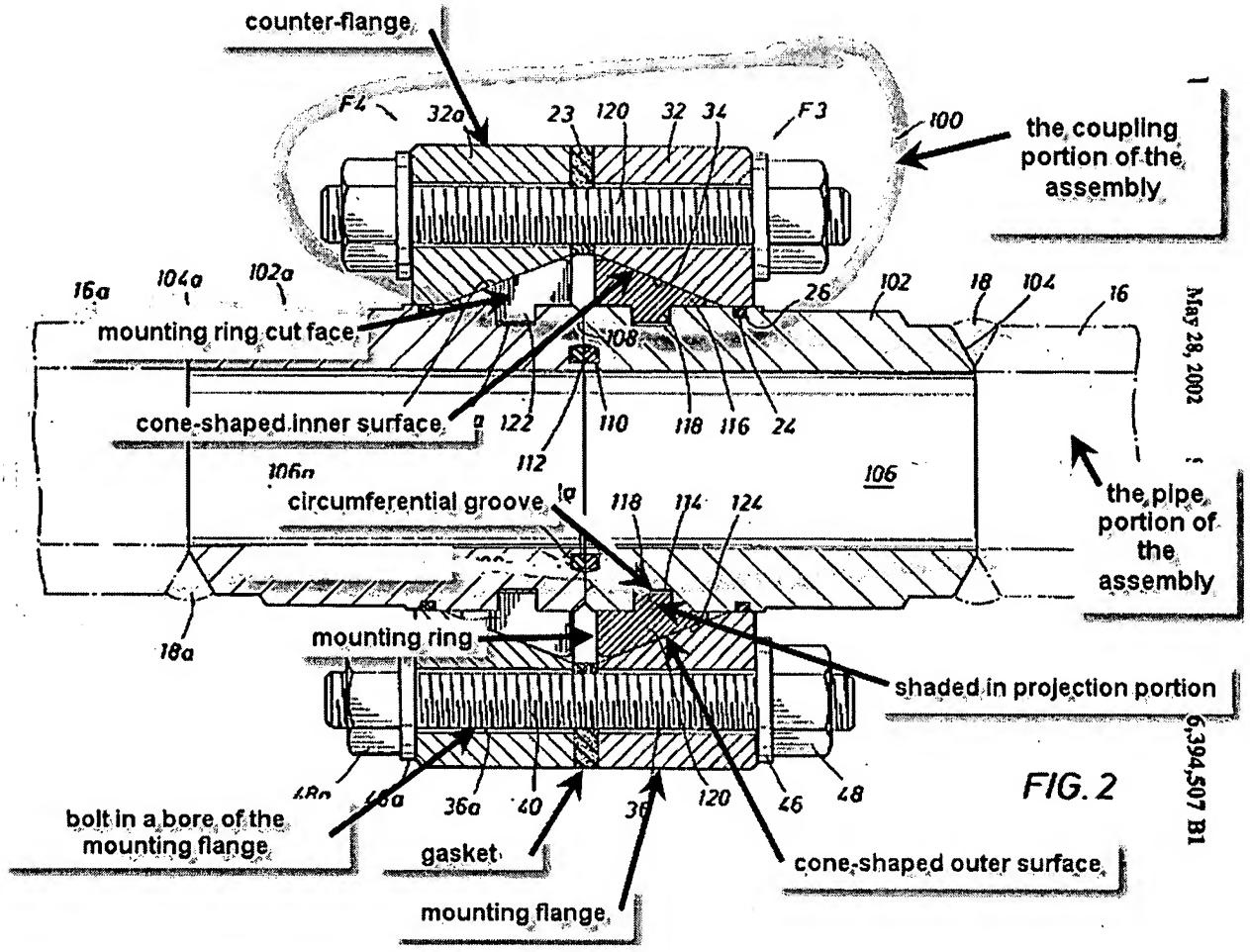
5. Baker discloses the claimed invention except for specifically stating that the mounting ring is resilient. The Examiner notes that metal rings and C-shaped structures generally exhibit at least some resilient quality due to the combination of metal's elasticity and the shape. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mounting ring out of a resilient material to make the mounting ring resilient, such as spring steel, to reduce permanent warpage of the mounting ring while in storage prior to use and reduce loss of shape during mishaps (which could render the mounting ring useless for installation purposes), since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

6. Note in regard to claim 21, that it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation, but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. Therefore, the recitation of "the rib being adapted to fit into said groove upon elastically expanding the ring over the pipe to hold the ring affixed to the pipe when being tightened towards the counter-flange" in lines 6-9 of claim 21 is given no patentable weight.

7. Note in regard to claim 21, it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951). Therefore, the recitation of "for connecting a pipe to a counter-flange associated with another pipe (16a) in a sealed manner,

wherein the pipe is formed with a circumferential groove" in lines 1-3 of claim 21 is given no patentable weight.

8. Note in regard to claim 21, Baker discloses that his invention need not have gasket 26 with the recitation, starting in column 5, line 66, "Optional O-ring seals 24 and 24a received in annular grooves 26, 26a in conjunction with a gasket 23 (see FIG. 2) disposed between flange faces 33, 33a provide weather-tight sealing of connection apparatus 10." Further, gasket 112 is associated with the pipe portion of the assembly and not the pipe coupling portion of the assembly.



(marked Baker Figure 2)

9. In regard to claim 22, Baker discloses that the ring is split (column 9, lines 21-27).

10. In regard to claim 23, Baker discloses that the ring is split by a cut extending in an axial plane thereof (as observed in marked Figure 2, above, the faces of the cuts, part 122, are in a plane with the sectional cut and therefore are made by a cut extending in an axial plane of the mounting ring).

11. In regard to claim 26, Baker discloses that the projection portion comprises a circular rib (column 9, lines 23-26).

12. In regard to claim 31, Baker discloses that the ring has an outer cone-shaped surface (column 9, lines 29-30).

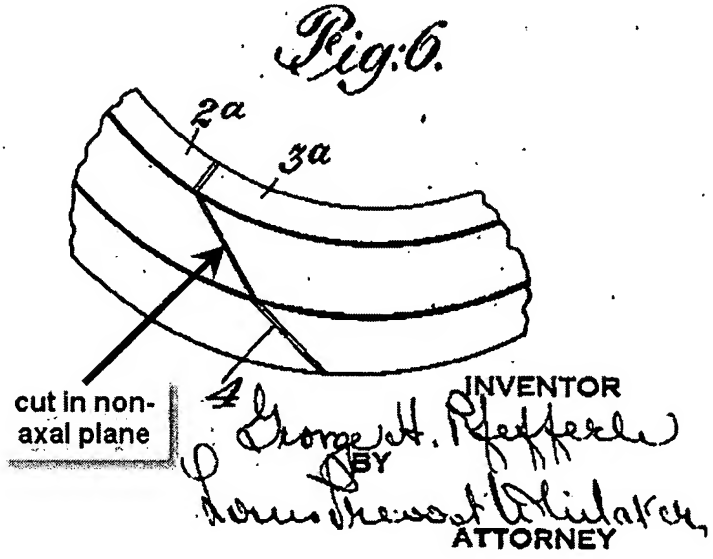
13. In regard to claim 32, Baker discloses that the cone angle is between 150-300 degrees relative to the axis of the ring (150-300 degrees is 30 degrees off the pipe central axis, therefore the 10-30 degrees as disclosed by Baker in column 2, line 63, through column 3, line 5, meets the claim).

14. In regard to claim 34, Baker discloses that the mounting flange is formed with an inner cone-shaped surface matching the cone-shaped surface of the ring (as observed in marked Figure 2 above).

15. In regard to claim 35, Baker discloses that the mounting flange is formed with a series of bores through which tightening bolts are adapted to pass (as observed in marked Figure 2 above).

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 21-23, 26, 31, 32, 34, and 35 above, and further in view of Pfefferle (U.S. 1,942,489).

17. In regard to claim 24, Baker discloses the claimed invention except for the ring being split by a cut extending in a non-axial plane thereof. Pfefferle teaches a split ring, in Figure 6 below, used in pipe couplings that is split by a cut (4) extending in a non-axial plane to reduce the tendency of the ring ends from separating when the ring is compressed (column 1, lines 22-33). As the cut ring of Pfefferle relates to joining the ends of split rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to split the ring of Baker with a cut extending in a non-axial plane as taught by Pfefferle to reduce the tendency of the ring ends from separating when the ring is compressed.



(marked Pferfferle Figure 6)

18. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 21-24, 26, 31, 32, 34, and 35 above, and further in view of Robinson (U.S. 5,779,285).

19. In regard to claim 25, Baker does disclose that the pipe coupling components may be made of a variety of materials depending on the use of the coupling (column 10, lines 34-51), but

Baker does not disclose a ring being made of plastic material. However, Robinson teaches a pipe coupling wherein the ring (30) is made of plastic materials to allow functioning in a corrosive environment (column 2, lines 10-13). As Robinson relates to pipe coupling materials choice, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the ring of Baker of plastic materials as taught by Robinson to allow functioning in a corrosive environment.

20. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 21-26, 31, 32, 34, and 35 above, and further in view of Hanes (U.S. 3,381,983).

21. In regard to claim 27, Baker discloses the claimed invention except for the rib being of a generally saw-tooth shape having a right-angled side and a beveled side. Hanes teaches a ring (22) used with a pipe coupling with a circumferential groove that is of a generally saw-tooth shape having a right-angled side and a beveled side (as observed in Figure 6) to facilitate assembly of the coupling joint (column 3, lines 40-75, and column 4, lines 1-6). As relates to pipe coupling mounting rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the circular rib of Baker with a saw-tooth shape having a right-angled side and a beveled side ring as taught by Hanes to facilitate assembly of the coupling joint.

22. Claims 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 21-27, 31, 32, 34, and 35 above, and further in view of Martin (U.S. 3,284,112).

23. In regard to claim 28, Baker discloses the claimed invention except for the mounting ring having a circular recess for the gasket. Martin teaches a pipe coupling with a mounting ring, as observed in marked Figure 3 below, with circular recesses (13) to engage a gasket and improve sealing (column 2, lines 40-44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the mounting ring of Baker with circular recesses as taught by Martin to engage a gasket and improve sealing of the o-ring gasket (23).

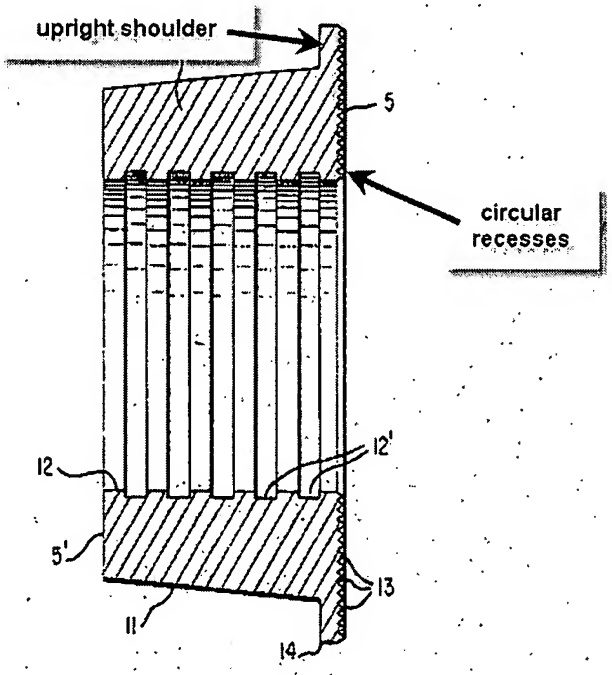


FIG.3

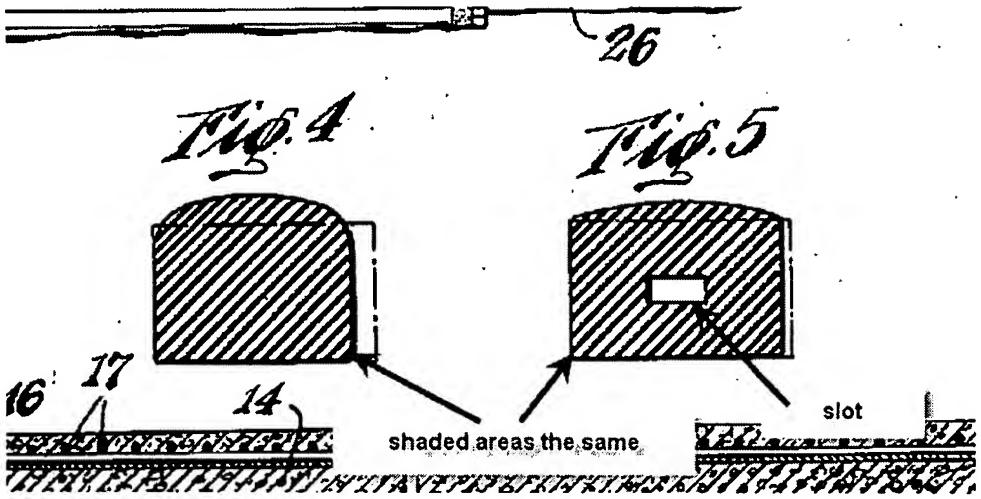
(marked Martin Figure 3)

24. In regard to claim 33, Baker discloses the claimed invention except for an upright shoulder extending around the end of the cone-shaped surface. Martin, in marked Figure 3 above, further teaches a mounting ring with an upright shoulder (14) to prevent the ring from

being pulled through the mounting flange (column 2, lines 62-66). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the mounting ring of Baker with an upright shoulder as taught by Martin to prevent the mounting ring from being pulled through the mounting flange.

25. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker in view of Martin as applied to claims 21-28, and 31-35 above, and further in view of Trickey (U.S. 1,976,589).

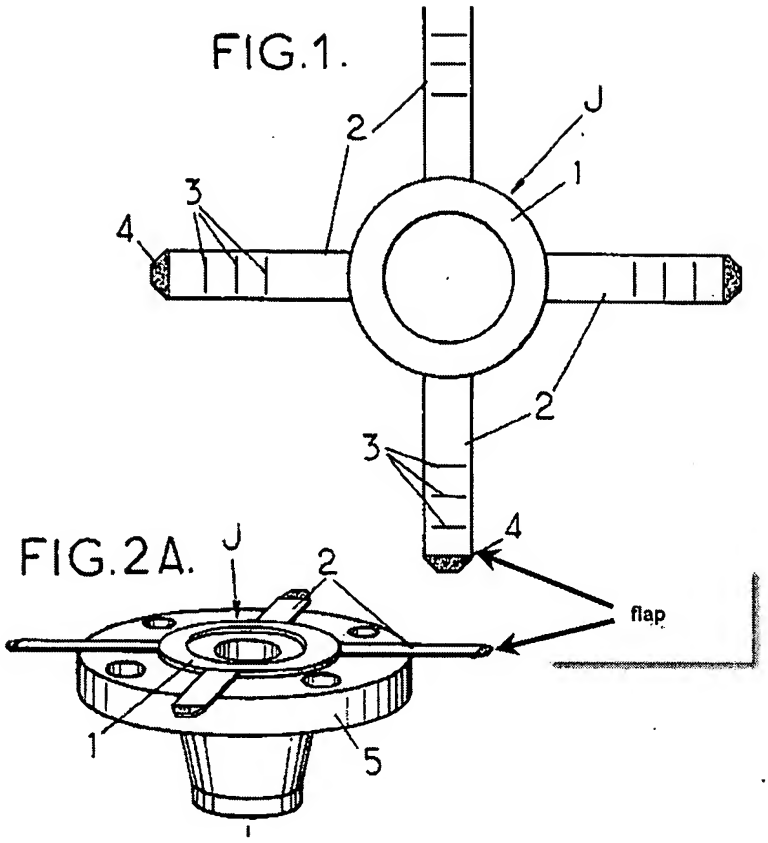
26. In regard to claim 29, Baker in view of Martin provide the claimed invention except for the gasket having an inner slot. Trickey teaches in Figure 5, below, a pipe joint gasket having an inner slot to allow a larger gasket perimeter for a given volume of gasket material (column 4, line 146, through column 5, line 13). As Trickey relates to gaskets, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the gasket of Baker with an inner slot as taught by Trickey to allow a larger gasket perimeter for a given volume of material.



(marked Trickey Figures 4 and 5)

27. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker in view of Martin in view of Trickey as applied to claims 21-28, 29, and 31-35 above, and further in view of Loth (U.S. 6,367,803).

28. In regard to claim 30, Baker in view of Martin and Trickey provide the claimed invention except for the gasket being formed with a thin flap. Loth teaches a gasket in marked Figures 1 and 2A, below, with a thin lip to support the gasket centered prior to assembly of the pipe connection (column 1, lines 63-65). As relates to gaskets, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the gasket of Baker in view of Martin and Trickey with a thin lip as taught by Loth to support the gasket centered prior to assembly of the pipe connection.



(Loth Figure 1 and Figure 2A)

29. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 21-35 above, and further in view of Milot et al (U.S. Des. 284,022).

30. In regard to claim 36, Baker discloses the claimed invention except for the series of bores being partly surrounded by arcuate projections. Milot et al teach a flange in Figure 1, below, with arcuate projections partly surrounding the bores to buttress the flange against tensional bending when the bolts are tightened. As relates to flanges, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the flange of Baker with arcuate projections partly surrounding the bores as taught by Milot et al to buttress the flange against tensional bending when the bolts are tightened.

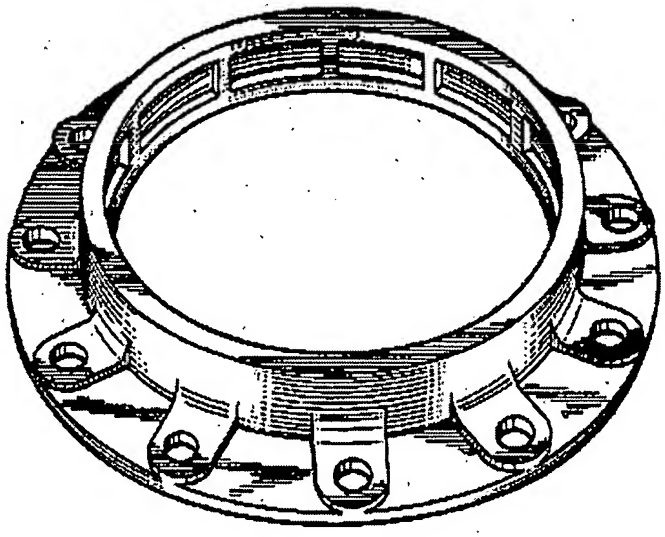
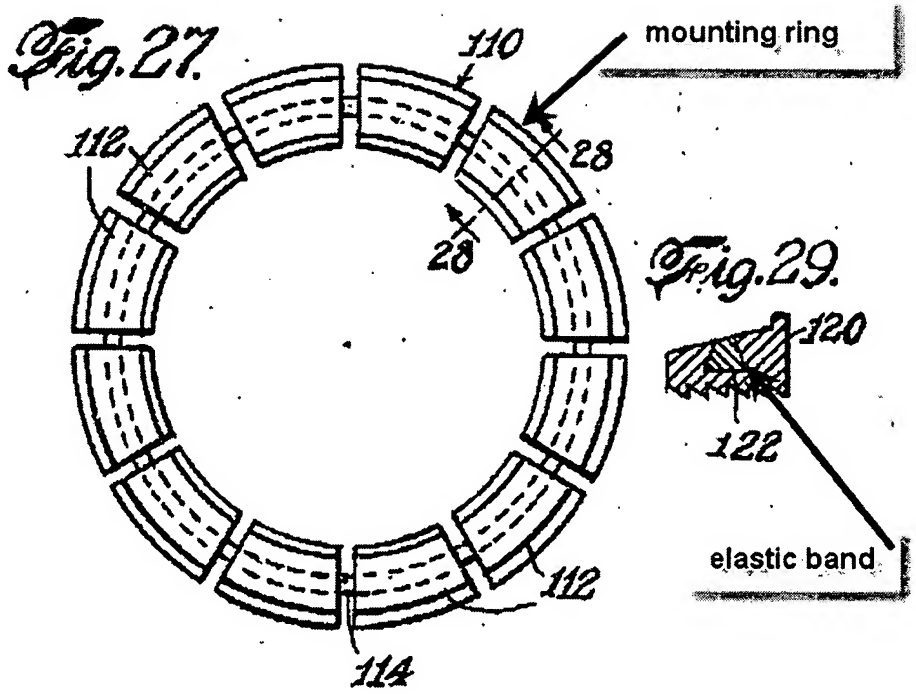


Fig. 1

(Milot et al Figure 1)

31. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 21-36 above, and further in view of Risley (U.S. 2,779,610).

32. In regard to claim 37, Baker discloses the claimed invention except for the ring segments being held together by an elastic band. Risley teaches a pipe coupling with a multi-segment mounting ring in Figure 27, below, with an elastic band (122 as observed in Figure 29. below) holding the segments together to allow the segments to be moved radially inwardly into engagement with the pipe surface when compressed (column 6, lines 33-40). As relates to multi-segment mounting rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the mounting ring of Baker with an elastic band as taught by Risley to allow the segments to be moved radially inwardly into engagement with the pipe surface when compressed.

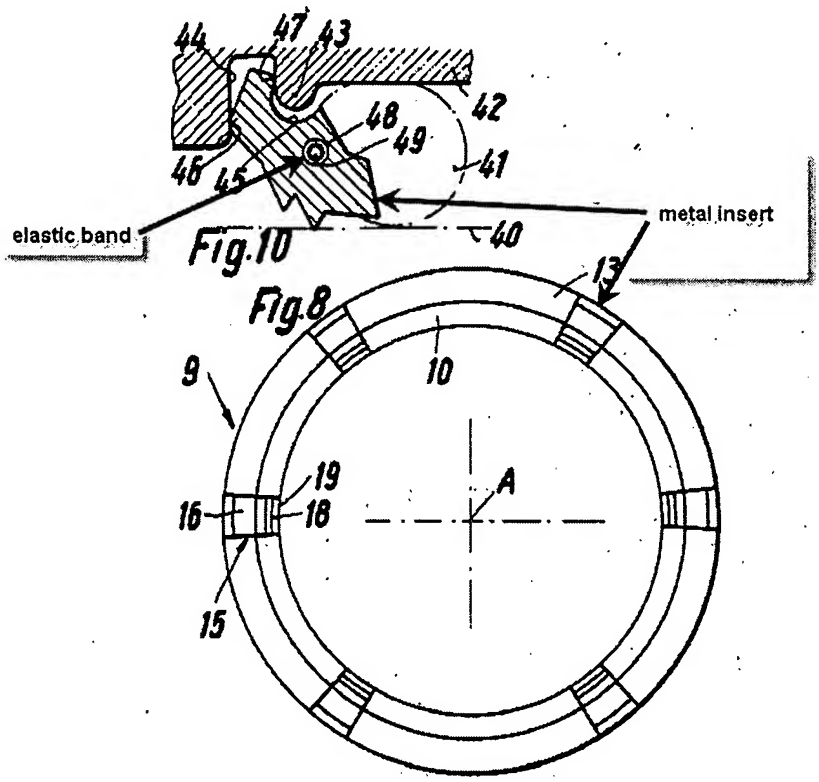


(marked Risley Figures 27 and 29)

33. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker in view of Risley as applied to claims 21-37 above, and further in view of Seiler (U.S. 2,779,610).

34. In regard to claim 38, Baker in view of Risley provide for the claimed invention except for metal inserts being interposed between adjacent segments. Seiler in Figures 8 and 10, below, teach placing metal insets (metal as shown by the crosshatching in Figure 8) as an anti-thrust provision in rings of pipe connections to secure the male end against thrust (column 1, lines 1-2, and column 1, line 68, through column 2, line 1). As relates to pipe connection rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the segmented ring as provided by Baker in view of Risley with metal inserts interposed between adjacent segments as taught by Seiler to secure the male end against thrust.

35. In regard to claim 39, Seiler further teaches that the segments and inserts be held together by an elastic band threaded therethrough to secure the metal segments in the ring (column 6, lines 12-26). As relates to pipe connection rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to hold the segments and inserts of the segmented ring provided by Baker in view of Risley by an elastic band threaded therethrough as taught by Seiler to secure the metal segments in the segmented ring.



(marked Seiler Figures 8 and 10)

36. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 21-39 above. Baker discloses the claimed invention except for explicitly stating that the mounting ring being made of sheet metal. Baker does show that the ring is made of steel in

Figure 2 above. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mounting ring of sheet metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design, *In re Leshin*, 125 USPQ 416.

Response to Arguments

37. Applicant's arguments filed 08/02/2007 have been fully considered but they are not persuasive.

38. Applicant's arguments with respect to claims 21-23, 26, 31, 32, 34, and 35 have been considered but are moot in view of the new ground(s) of rejection.

39. Concerning the Applicants' arguments in the reply filed 08/02/2007 in pages 5-16, the arguments drawn to the prior art of Baker (U.S. 6,394,507), i.e. that "Baker does not teach, disclose or suggest all the limitations of Applicant's amended claim 21", the arguments are not persuasive. It appears that the Applicants' are asserting that the mounting ring of Baker is not elastically expandable and that Baker teaches away from a mounting ring being resilient with the following statements from page 6 of the reply filed 08/02/2007:

> "Baker discloses a pair of rigid ring-halves. The ring-halves of Baker are not resilient nor elastically expandable. That is, the rings, while made of metal, can expand and contract (i.e., depending on temperature), but the metal ring-halves are not elastically expandable. If the ring-halves in Baker were attempted to be stretched, the ring-halves would not return to their original physical shape. Further, the ring-halves are not resilient and would not return to their shape if impacted with an object (e.g., a hammer). That is, the metal ring-halves would remain dented."

40. The Examiner points out that nowhere in the U.S. Patent Document U.S. 6,394,507 does Baker teach, disclose, or suggest any of the attributes noted in the above quotation from page 6 of the reply filed 08/02/2007.

41. The Examiner notes that the adjectives "elastic" and "resilient" can be interpreted to have the same definition, i.e. being capable of returning to an initial form or state after a deformation. As the Applicants have used both adjectives in the claims, Examiner shall treat the adjectives separately for the nonce.

42. Be that as it may, the relevant issues at hand are whether the mounting ring of Baker is elastically expandable and whether it would be obvious to one of ordinary skill in the art to modify the mounting ring of Baker by making it with a material that specifically gives the mounting ring resilience. First, the mounting ring of Baker is elastically expandable, since a material suitable for the mounting ring will have elastic properties since the mounting rings support the loads imposed by the bolts holding the flange assemblies together (column 1, lines 28-30). A malleable material would simply fail in such a use and, therefore, not selected as a suitable material for the intended use. Second, it would be obvious to one of ordinary skill in the art to modify the mounting ring of Baker by making it with a material that specifically has resilience, for example spring steel, for a number of obvious reasons, such as to reduce permanent warpage of the mounting ring while the mounting ring is in storage prior to use and to reduce loss of shape during mishaps (which could render the mounting ring useless for installation purposes) as advanced in the rejections above.

43. Further in regard to amended claim 21, note that it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation, but only requires the

ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. Therefore, the recitation of "the rib being adapted to fit into said groove upon elastically expanding the ring over the pipe to hold the ring affixed to the pipe when being tightened towards the counter-flange" in lines 6-9 of claim 21 is given no patentable weight. The mounting ring of Baker is elastic and therefore has the ability to perform the function recited.

Conclusion

44. Applicant's amendment ("resilient" in claim 21, line 3; "the rib adapted to" in claim 21, line 6; "upon elastically expanding" in claim 21, line 7) necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay R. Ripley whose telephone number is 571-272-7535. The examiner can normally be reached on 01:00 P.M. - 8:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

J. R. Ripley
12 OCT 2007

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600